

A wall which is to be painted in wax (and the same principle is applicable to all mural pictures) should not be quite perpendicular, but should incline inwards, with reference to the room, in its upper part. By this means the work is better seen, and dust is less apt to collect on it. The surface should be levigated; it is then to be thoroughly dried by heat, and lastly to be saturated with the following mixture: 10 parts of white wax, 2 parts of resin, and 40 parts of spirit of turpentine. This liquid is made to penetrate the wall or stucco by means of heat, and the application is repeated till the surface ceases to absorb. Holes or irregularities are to be stopped with a mastic composed of wax, resin, and whiting. Over this preparation a coat or two of wax colour is to be spread as a ground for the painting.

The wax used in painting should be bleached and perfectly free from extraneous matter.\* The resin recommended by Montabert is that called elemi; this, combined with wax and an essential oil, is the vehicle in which the colours are ground, and which serves to work them. The proportions are, 1 part of resin and 4 parts of wax, dissolved over a water-bath in 16 parts of essence of spike-lavender. The colours are ground in this gluten, diluted as may be required during the operation of grinding by the addition of the essence. They are then preserved in glass or earthenware vessels, and if they get hard (which can only happen after a considerable time) they may be dissolved with the essence or ground again, and are always fit for use. Instead of elemi, copal may be used by those who prefer hard resin.

The solution of wax alone is effected by the same essence, and this preparation is available when the artist wishes to increase the proportion of wax. The paste may be thinned with water by grinding it thoroughly with a muller, and gradually adding water to the amount of four times the weight of wax. This is called the milk of wax, and serves as a varnish for pictures executed in the above mode. The solution of elemi or other resins in the essence, without wax, may also be employed when the resinous ingredient is required in greater abundance. To these materials may be added the essential oil of wax (procured from wax by distillation), which evaporates more slowly than that of lavender, and may sometimes be of use in the practice of this art.

A process introduced in Munich by Professor Fernbach is not yet made known, but it is supposed to consist merely in the addition of liquid resin (balsam) to the wax, instead of artificial solutions of hard resinous substances.

The methods more commonly practised in Germany differ but little from the system of Montabert. The following descriptions have been obligingly furnished by the artists:—

"For large paintings it is desirable that the ground should be somewhat rough. In Munich it is prepared as follows:—A mortar composed of three parts of sand and one of lime is spread on the wall. When this is done, the whole surface, while moist, is rubbed with a linen cloth; the result is a granulated ground, like rough paper. For small works, ornaments, &c., the ground requires to be smooth, and in such cases finely powdered white marble should be mixed with the lime instead of sand; the mortar so composed being then carefully spread and made even.

"The encaustic vehicle is prepared as follows:—To one pound of rectified spirit of turpentine add half a pound of Damara resin and a quarter of a pound of wax. The resin should be pounded to powder, and the wax cut up in small pieces. Both are then to be put into an earthenware or copper vessel, and the spirit of turpentine poured on them. Place the vessel on a moderate charcoal fire, so that the solution may take place slowly. When the ingredients are dissolved, the vehicle is ready for use, and should be kept in a glass bottle well stopped, to prevent the volatile oil from escaping. Should the mixture become too thick in time, spirit of turpentine may be added. The colours are ground in such a quantity of this vehicle as is necessary to saturate them. If during the grinding the pigment tends to set (dry), spirit of turpentine should be added. For extensive paintings the

colours are kept in glass vessels. For smaller works they may be tied up in bladders, like colours for oil-painting. The same colours which are employed in oil may also be used in encaustic-painting.

"It is essential that the ground on which the painting is to be executed should be quite dry. Then the whole surface to be painted is to be washed over with milk. When this is dry, a ground of encaustic colour is to be spread on the wall, the artist selecting any tone he pleases. This being done, the surface is suffered to dry well, which will require some days, as it is important that the colour should be in no danger of being dissolved by subsequent operations. The artist can then begin to paint.

"In executing ornaments on a coloured ground, the ground must be composed of two or three coats (not too thick), each of which should be allowed to dry separately. The time required for drying varies according to the state of the weather. As soon as the pigment used for the ground is no longer easily dissolved—a degree of hardness which it often attains in the course of a day—the painter may begin to work.

"When the painting, whether consisting of ornaments or other subjects, is finished and sufficiently dry, the whole is to be thinly passed over with the encaustic vehicle applied with a large brush, and after a day or two this varnish is to be heated with a charcoal fire, to such a degree, however, as not to injure the colours. The result is an equal but moderate shine over the whole surface."

Another process, practised at Munich in 1843, may complete this list of recipes:—

To a pound of turpentine (resin), evaporated to dryness by heat, add half a pound of powdered Damara resin, and a quarter of a pound of bleached wax, cut into small pieces. To be heated as before; and, when used, to be diluted, when necessary, with spirit of turpentine.

A mode of cleaning wax paintings is described, together with the materials now used by the French artists, in Durosiez's pamphlet, before quoted.

The following description of the nature and advantages of wax, as adapted for general painting, was submitted to some German chemists by Dr. Roux, and received, among other statements by him, their written sanction:—

"Wax is, in chemical language a combination of cerine and myricine. It is a peculiar organic substance, resembling fat, but yet distinct from it. Wax is unaltered by exposure to air. It neither becomes harder nor softer, and therefore does not contract like the unctuous oils. Exposed to light, it becomes whiter. Grund, in his history of ancient painting, relates that he saw in an Italian church two large wax candles, which had been presented in the year 1445, and which he at first took for snow-white marble pillars. On breaking the surface, he found them equally white internally.

"Colours mixed with wax are entirely saturated by it. Wax and colours form together a more solid, less fusible substance than wax alone. The pigments remain closely united with the wax. No skin appears on the surface of the picture, even when the wax has been mixed in abundance with the colours. An under-painting executed with wax colours, has much more brightness than one executed in oil. A second painting on such a preparation appears bright and clear, on which account a painting in which wax has been used as the vehicle is always brilliant. When an oil-painting at twilight begins to become indistinct to the eye, a wax-painting next it is still clearly visible.

"Wax is dissolved in volatile oil, which is also used with the colours. This volatile oil evaporates in a short time, and assists the drying of the colours.

"Paintings executed with wax colours cannot crack (?), for the under-painting dries quickly from the ground. The ductility and tenacity of the wax prevent its cracking. This method of painting has also the advantage, that the dissolving power of the volatile oil which is used in the after-painting and finishing produces a union of the upper and under layers, by which means the whole coloured substance becomes intimately united."

The statement that wax has no tendency to crack is true as regards the substance itself; but a painting thickly executed in wax, and varnished soon after its completion, would very probably crack. The Germans evade this difficulty, and consider resinous varnishes unnecessary to wax-painting. The French artists do not exclude a final varnish. If such an addition be desirable, it is of more than ordinary importance to select a resinous solution that has little tendency to crack. The Damara varnish of Lucanus, and the excellent varnish of Soehnée (which seems to be analogous to Field's lac-varnish), have this reputation. The latter has also the agreeable quality of being perfectly dry to the touch within a few hours after its application, and of remaining so. It never becomes discoloured. A coat of white paint, having half its surface varnished with this liquid, and the other half with mastic varnish, exhibits a great difference of tint in a short time; the portion varnished with the Soehnée varnish retaining its first appearance unaltered. Its defect is its want of sufficient body; there seems also to be a difficulty in removing it from the surface even of an oil picture. The Damara varnish has the same qualities of not changing colour, and never cracking; it has more body than Soehnée's preparation, but is certainly not so clear.

Sir Humphry Davy, in his analysis of some of the colours of the ancients, found some vitrified substances, and accordingly expressed his conviction that glass frits would be the most durable of coloured materials, if they could be so prepared as to meet the wants of the artist. Dr. Roux is of the same opinion, and suggests that "as a white frit possessed of sufficient opacity is not to be obtained, the oxide of zinc might represent it among the vitrified colours. It is equally unchangeable." To these opinions is to be opposed a practical authority of great weight, who remarks that these colours, when ground to the degree of fineness necessary to render them applicable to painting, become liable to all the chemical changes and affinities of the substances which compose them.

The adaptation of oil painting to walls has generally found less favour with painters than any other method, from the numerous examples of a blackened surface which works so executed present. The process may be less objected to since it has been so ably employed in the Ecole des Beaux Arts at Paris.

In this mode of painting, as hitherto practised, all absorption from the ground is cut off by the application of the first coat or hydrofuge preparation; it is, therefore, essential that the quantity of oil should be diminished in the under painting. For this purpose the half tempera method, which, it appears, was sometimes employed by the northern Italian schools as a preparation for oil-painting, would be well adapted. But the application of a composition impenetrable to damp is not incompatible with an absorbent ground for the painting itself. Such a ground could be made to bind firmly to the hydrofuge by various means; indeed the same mode which the Italians adopted for panels would quite answer this end. These various methods are, however, so intimately connected with the general question respecting the early practice of oil-painting, that, to avoid repetition, they may be reserved till that inquiry can receive due attention.

A method invented by M. Huseenot, called "Peinture à l'Huile en Feuilles," consists in the preparation of very thin sheets of oil pigment (for example, white lead), which may be rolled like cloth. They may be made of any size, or may be fitted together so as to exhibit no joining. A sheet of paint, so prepared, is fastened in a temporary manner on a panel, or on cloth attached to a stretching-frame, and the artist completes his picture. When dry it is rolled up, carried to the place for which it is destined, and permanently fixed to the wall, being then made to adhere throughout its whole surface, probably by the application of a coat of white lead, to the wall. The objection to this mode (to say nothing of the oil ground) for important paintings, is the extreme danger of accident in the rolling and unrolling. For ordinary purposes it offers great facilities, since the application of decorations in oil on the walls of rooms or on shop-fronts can be accomplished in a few hours, the work having been prepared without inconvenience in the study of the artist.

\* The "pale wax" of the ancients was nothing more than bleached wax. Pliny L. 21, c. 14, and Dioscorides, L. 2, c. 103. Compare Requeno, lib. v. 2, p. 50. Blarcbet was in early procured, but the white wax sold for ordinary purposes is mixed with spermaceti.